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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR		ATTORNEY DOCKET NO.
08/905,356	08/04/97	BELGARD	R	RAB-97-002

LM02/1016

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EXAMINER
NGUYEN, T

ART UNIT	PAPER NUMBER
2751	

DATE MAILED: 10/16/98

Please find below and/or attached an Office communication concerning this application or proceeding.

Commissioner of Patents and Trademarks

1-File Copy

Office Action Summary

	Application No.	Applicant(s)
Office Action Summary	08/905,356	Belgard
	Examiner T Nguyen	Group Art Unit 2751

—The MAILING DATE of this communication appears on the cover sheet beneath the correspondence address—

Period for Response

A SHORTENED STATUTORY PERIOD FOR RESPONSE IS SET TO EXPIRE ___3___ MONTH(S) FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a response be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If the period for response specified above is less than thirty (30) days, a response within the statutory minimum of thirty (30) days will be considered timely.
- If NO period for response is specified above, such period shall, by default, expire SIX (6) MONTHS from the mailing date of this communication .
- Failure to respond within the set or extended period for response will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133).

Status

☒ Responsive to communication(s) filed on ___8-4-97___ .

☐ This action is **FINAL.**

☐ Since this application is in condition for allowance except for formal matters, **prosecution as to the merits is closed** in accordance with the practice under *Ex parte Quayle,* 1935 C.D. 1 1; 453 O.G. 213.

Disposition of Claims

☒ Claim(s) ___1-5, 38-81___ is/are pending in the application.

    Of the above claim(s) _____ is/are withdrawn from consideration.

☐ Claim(s) _____ is/are allowed.

☒ Claim(s) ___1-5, 38-81___ is/are rejected.

☐ Claim(s) _____ is/are objected to.

☐ Claim(s) _____ are subject to restriction or election requirement.

Application Papers

☐ See the attached Notice of Draftsperson's Patent Drawing Review, PTO-948.

☐ The proposed drawing correction, filed on _____ is ☐ approved ☐ disapproved.

☐ The drawing(s) filed on _____ is/are objected to by the Examiner.

☒ The specification is objected to by the Examiner.

☐ The oath or declaration is objected to by the Examiner.

Priority under 35 U.S.C. § 119 (a)-(d)

☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 11 9(a)-(d).

    ☐ All ☐ Some* ☐ None of the CERTIFIED copies of the priority documents have been

    ☐ received.

    ☐ received in Application No. (Series Code/Serial Number) _____ .

    ☐ received in this national stage application from the International Bureau (PCT Rule 1 7.2(a)).

    *Certified copies not received: _____ .

Attachment(s)

☒ Information Disclosure Statement(s), PTO-1449, Paper No(s). ___5___   ☐ Interview Summary, PTO-413

☒ Notice of References Cited, PTO-892   ☐ Notice of Informal Patent Application, PTO-152

☐ Notice of Draftsperson's Patent Drawing Review, PTO-948   ☐ Other _____

Office Action Summary

DETAILED ACTION

1.   This is a response to the amendment and IDS, field 8/4/97.

2.   Claims 1-5,38-81 are pending. Claims 6-37 have been canceled.

Information Disclosure Statement

3.   The IDS, filed 8/4/97, has been considered.

Specification

4.   The abstract of the disclosure is objected to because it does summarize the invention as claimed. Correction is required. See MPEP § 608.01(b).

Claim Rejections - 35 U.S.C. § 112

5.   Claims 38,39,41,42 are rejected under 35 U.S.C. 112, first paragraph for undue breadth. In re Hyatt, 708 F.2d 712,>714 - 715,< 218 USPQ 195>, 197< (Fed. Cir. 1983) (A single means claim which covered every conceivable means for achieving the stated purpose was held nonenabling for the scope of the claim because the specification disclosed at most only those means known to the inventor.). The claimed system only has one mean., the fast physical address generator.

Double Patenting

6.   A rejection based on double patenting of the "same invention" type finds its support in the language of 35 U.S.C. 101 which states that "whoever invents or discovers any new and useful process ... may obtain a patent therefor ..." (Emphasis added). Thus, the term "same invention,"

in this context, means an invention drawn to identical subject matter. See *Miller v. Eagle Mfg. Co.*, 151 U.S. 186 (1894); *In re Ockert*, 245 F.2d 467, 114 USPQ 330 (CCPA 1957); and *In re Vogel*, 422 F.2d 438, 164 USPQ 619 (CCPA 1970).

A statutory type (35 U.S.C. 101) double patenting rejection can be overcome by canceling or amending the conflicting claims so they are no longer coextensive in scope. The filing of a terminal disclaimer <u>cannot</u> overcome a double patenting rejection based upon 35 U.S.C. 101.

7. Claims 1-5 provisionally rejected under 35 U.S.C. 101 as claiming the same invention as that of claims 1-5 of copending Application No. 08/905,410. This is a <u>provisional</u> double patenting rejection since the conflicting claims have not in fact been patented.

Claim Rejections - 35 U.S.C. § 103

8. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negatived by the manner in which the invention was made.

9. Claims 1- 5 are rejected under 35 U.S.C. 103(a) as being unpatentable over Crawford(US 5,321,836).

As to claim 1:

Crawford discloses a virtual memory management method and apparatus using segmentation and optional, independent paging mechanism. He discloses a data path for receiving a virtual address, including a segment identifier and offset(Figure 2). The claimed segment descriptor memory for storing the base address, limit of the physical address, and physical address is taught as address

translation unit which stores the base and limit of the address and also the generated physical address(Figures 2 & 3, column 4 lines 50-69). Crawford does not specifically teach initiating a memory reference based on the virtual address and the information in the segment descriptor memory. However, Figure 2 illustrates that the virtual address and partial information in the segment descriptor memory is used to generate the physical address the physical memory through adder 26. One of ordinary skills in the art at the time of the invention would realize that the combination of the virtual address and the partial information in the segment descriptor memory can be used to initiate access the memory. Thus it would have been obvious to one of ordinary skills in the art that a memory reference can be initiated knowing the virtual address and partial information of the segment descriptor memory.

10.   **As to claims 2,3:**

Crawford discloses the segment memory being a plurality of registers(Abstract, column 4 line 35+). Figure 2 illustrates that the virtual address and information in the segment descriptor memory is used to generate the physical address the physical memory through adder 26. He also discloses that the descriptor memory could be cache memory(column 5 line 12+).

11.   **As to claims 4,5:**

Crawford teaches the physical address register storing a physical address comprising of a page frame and offset(Figure 4). It is also noted that Applicant's Figure 1 also teaches this claim limitation. The resulting physical address is used to access physical memory(column 1 line 24,

column 3 line 35+). He teaches using a 4 bit attribute field as information describing if the page can be used for translation(column 5 lines 28-38).

12. Claims 38-81 are rejected under 35 U.S.C. 103(a) as being unpatentable over Crawford(US 5,321,836) in view of Toy(US 4,400,774).

As to claims 38,39,42-44,47-50,53,54,56-58,60-62,64-66,69,70,73,75-78,81:

Crawford teaches the address translation system as claimed(see response to claim 1) but does not specifically teach calculating a physical address faster than generating an actual physical address. Toy discloses a nonsegmented memory system with a speculative address generator as cache address unit 125, which uses previous address bits to predict new physical addresses(col 3 ln 54 - col 4 ln 25, Figure 1). This provides for a faster physical address generation if the desired physical address shares the same address bits. The fast physical address is generated before the linear address is calculated(Crawford Figure 2). The speculative address can be used for generating a faster memory access. It would have been obvious to one of ordinary skills in the art at the time of the invention to use Toy's speculative address generator in Crawford's segmented memory system so that physical addresses can be generated more quickly.

As to claims 40,45,51,59,63,67,71,74,79:

Toy teaches canceling the memory access if the fast physical address does not equal the actual physical address(col 5 lns 13-49).

As to claims 41,46,52,55,68,72,80:

Toy teaches the fast physical address is generated based on combination of physical address

information from a different virtual address, and partial linear address information relating to the

virtual address by using previous address bits to generate the fast physical address(col 4 lns 1-36).

Conclusion

13.   Any inquiry concerning this communication or earlier communications from the examiner should be directed to Than Nguyen whose telephone number is (703) 305-3866.

14.   Any inquiry of a general nature or relating to the status of this application should be directed to the Group receptionist whose telephone number is (703) 305-9600.

Than Nguyen
October 9, 1998

EDDIE P. CHAN
SUPERVISORY PATENT EXAMINER